

Utah Department of Transportation Traffic Management Division

June 2015

Monthly Report



2060 South 2760 West Salt Lake City, Utah 84104 801-887-3710 www.udottraffic.utah.gov

Mission of the Traffic Management Division

- To Support UDOT and the Department of Public Safety to Achieve Zero Fatalities.
- To Help Provide Reliable and Efficient Travel Throughout Utah.
- To Provide Useful and Timely Real-time Traffic Information.
- To Work Together with Other Government Agencies to Serve the Public.
- To Provide Excellent Customer Service.

Traffic Operations Center



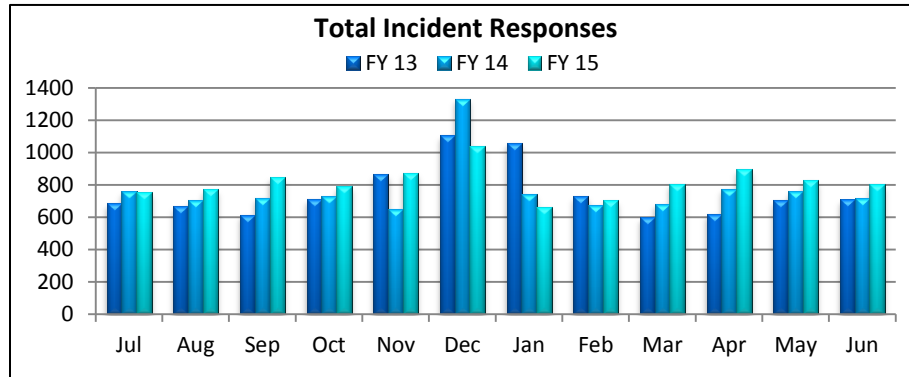
Field Devices Summary

Freeway PTZ Cameras	371
Surface Street PTZ Cameras	429
RWIS & Contracted Weather Cameras	208
Viewable Detection Cameras	67
Total Cameras	1075
Freeway VMS	96
Surface Street VMS	49
Portable TOC VMS	5
Legacy Trucks Prohibited VMS	21
Variable Speed Limit VMS	15
Chain-Up Signs	8
Total VMS	194
HAR (27 permanent/5 portable)	32
RWIS	98
Ramp Meters	63
TMS	540
Express Lane Plazas	63
Traffic Signals	1624

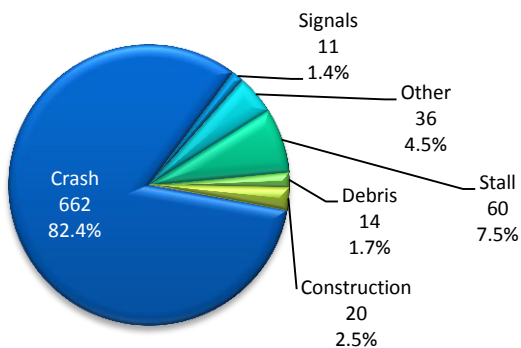
Operations Summary

VMS Messages Displayed	70,840
Signal Timing Work Orders	40
Signal Maintenance Work Orders	165
All New Work Orders	442
Work Orders Closed During the Month	613
Incident Responses by the TOC	803
Incident Duration Average Minutes	58
IMT Assists	2208
Website Visitor Sessions	89,400
511 Calls	8,210
Weather Desk Calls	139
Ask Commuterlink Questions	16
Average Speed AM Peak (07:00-08:00)	61.60
Average Speed PM Peak (17:00-18:00)	55.64
Incidents Using Signal Timing Assistance	67
UDOT Traffic Followers and Re-tweets	329,622
UDOT Traffic App Total Downloads	3,387

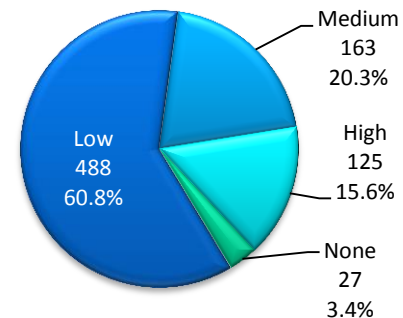
An incident response occurs each time an incident is recorded in the ATMS system. These can be of several types, including crash, construction, debris, stall, congestion, or other. Crashes are separated into three subcategories: property damage, personal injury, and fatal. Each time an incident is created, information is sent to the 511 system, the website, and to the public through email alerts. An incident remains active until it has been completely cleared from the roadway.



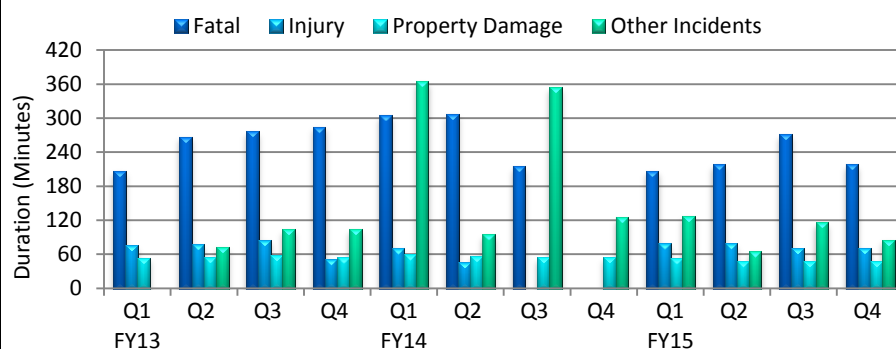
Incidents By Type for June 2015



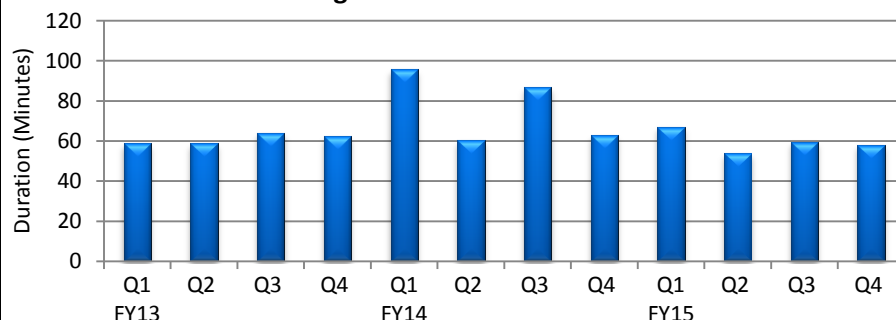
Incidents by Severity for June 2015



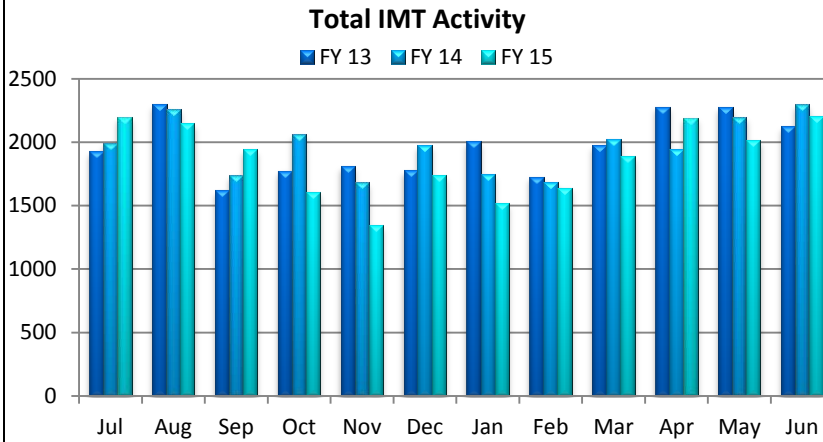
Average Crash Duration



Average Duration of All Incidents

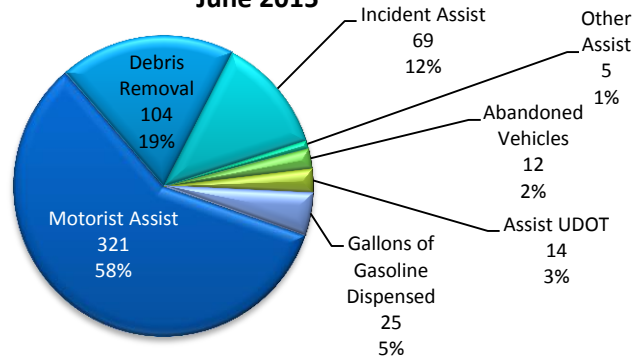


Incident Management Team (IMT) Activities



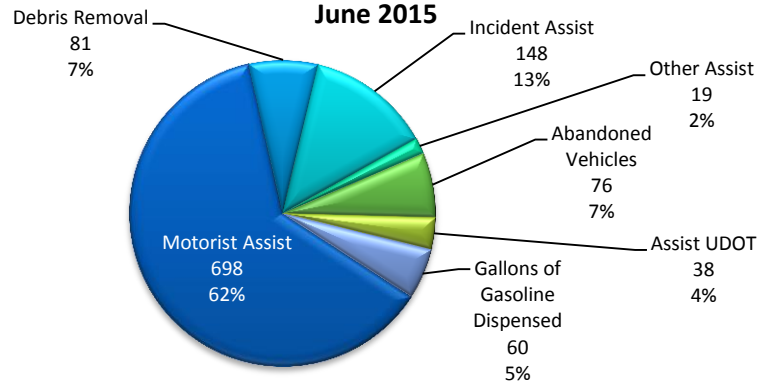
IMT Activities by Type for UDOT Region 1

June 2015



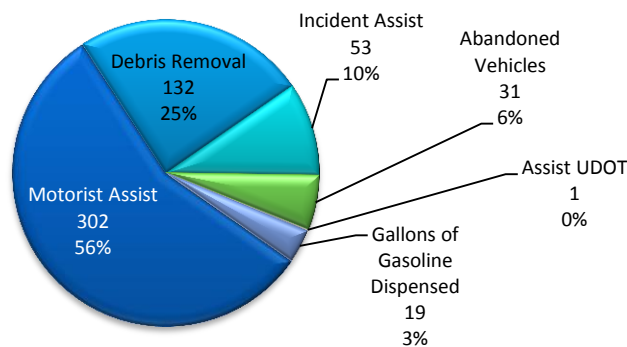
IMT Activities by Type for UDOT Region 2

June 2015



IMT Activities by Type for UDOT Region 3

June 2015



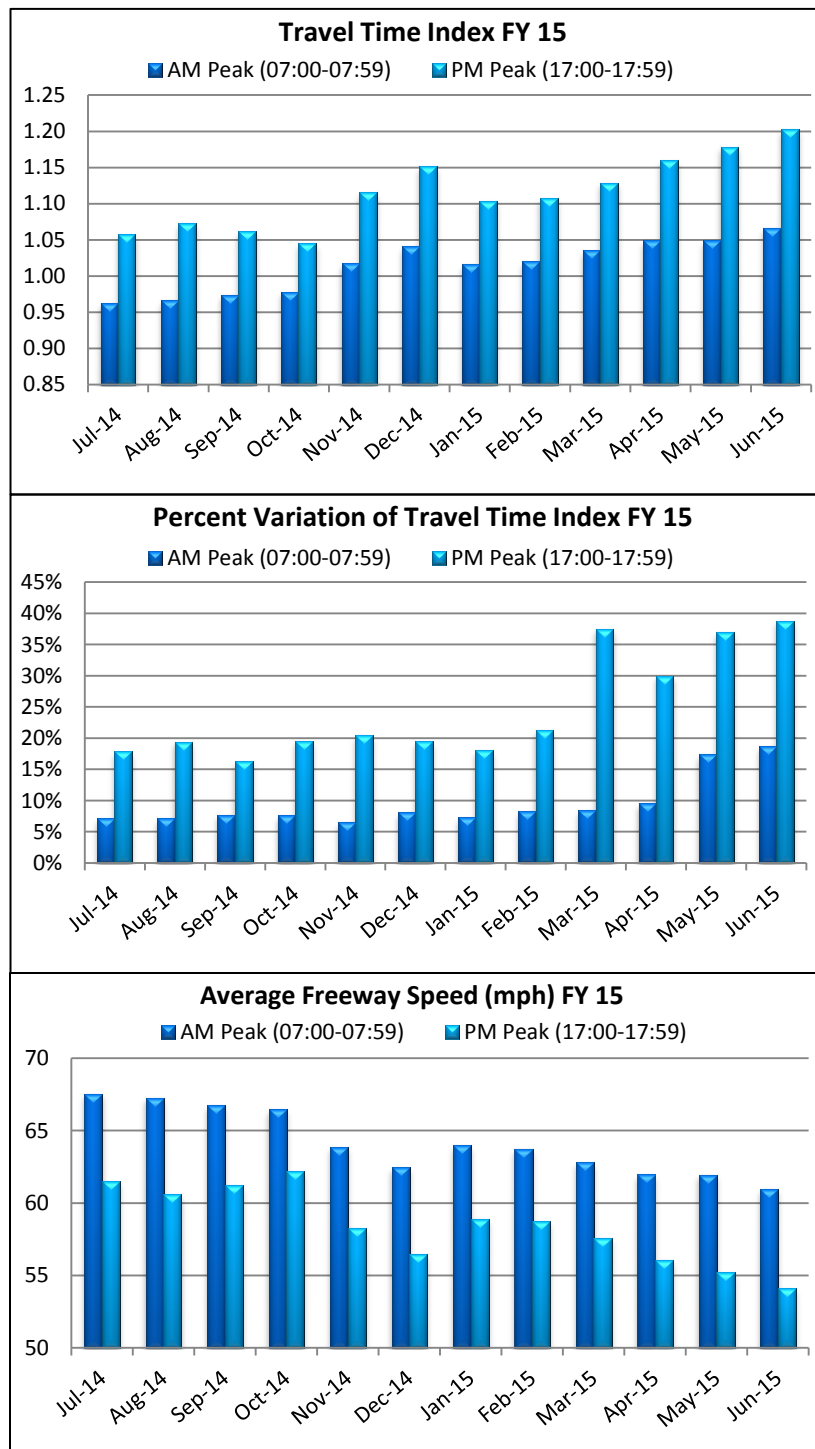
Freeway Traffic Level of Service

Freeway flow measures are taken from the Traffic Monitoring Stations (TMS) located throughout the Wasatch Front. As more TMS sites are installed throughout the state, they will be included in these performance measures.

Travel Time Index: This measure of mobility is based on freeway speeds and is weighted by segment lengths and by the traffic volume. A value of 1.0 represents free-flow speeds. A value of 1.12 indicates that the average vehicle trip takes 12% longer than if that were the only vehicle on the freeway.

Percent Variation of Travel Time Index: The percent variation in the Travel Time Index is a measure of how much the Travel Time Index changes from day-to-day.

Average Freeway Speed: The freeway speed is weighted by volume.



Freeway Traffic Level of Service

Peak Travel Time Index by Segment for June 2015

(+) Direction (NB, EB, Clockwise)

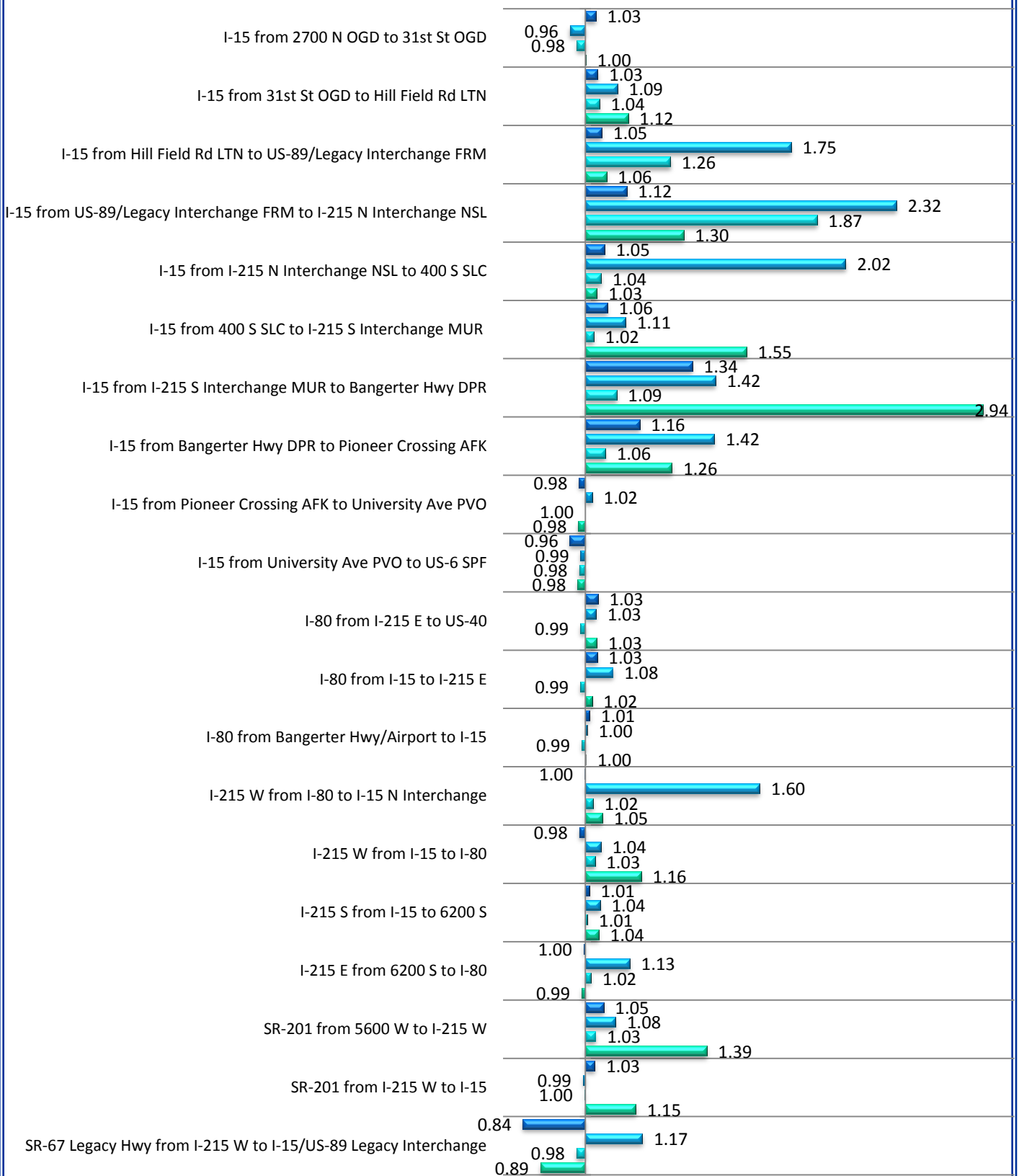
(-) Direction (SB, WB, Counter Clockwise)

■ AM Peak (07:00-07:59)

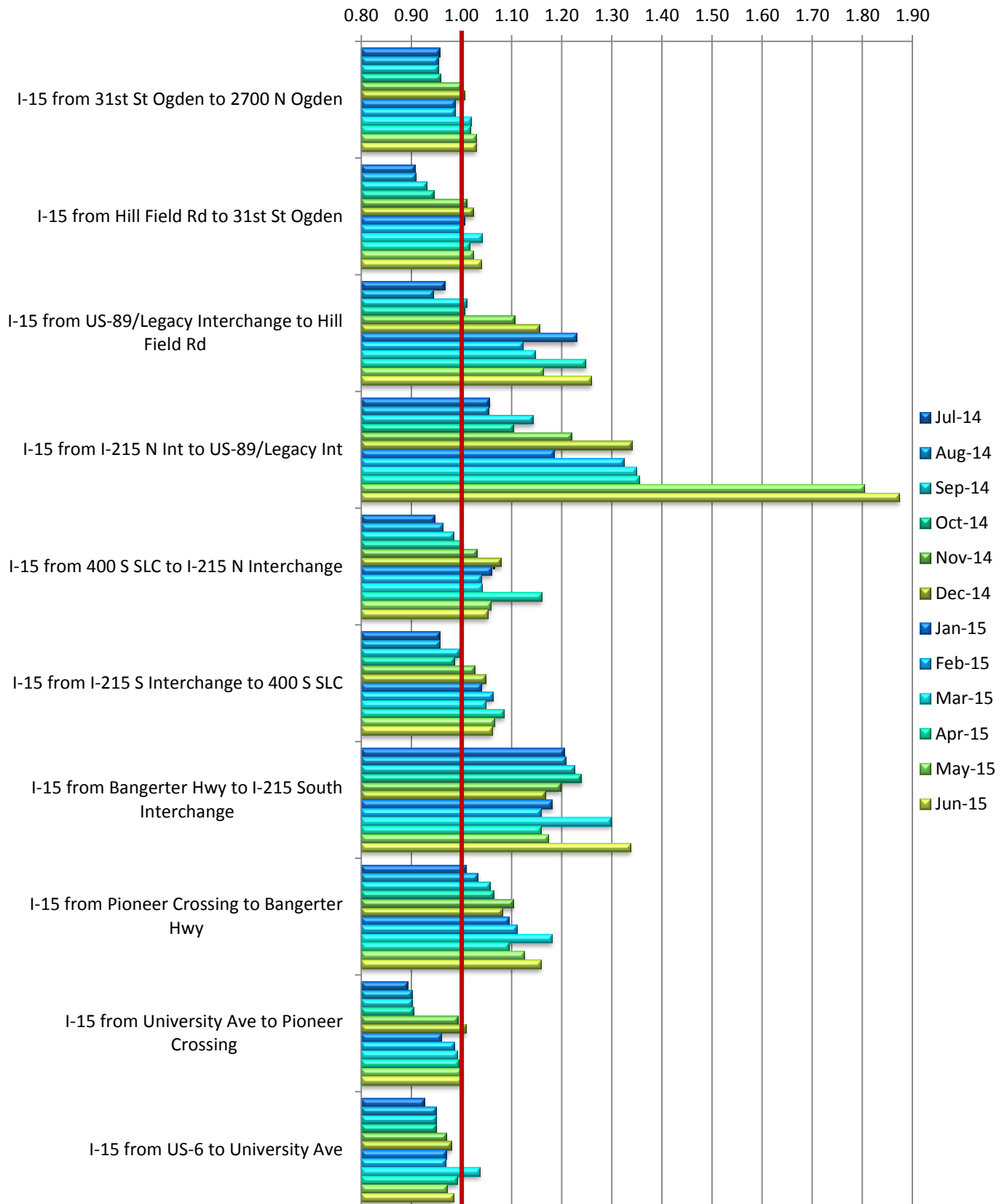
■ PM Peak (17:00-17:59)

■ AM Peak (07:00-07:59)

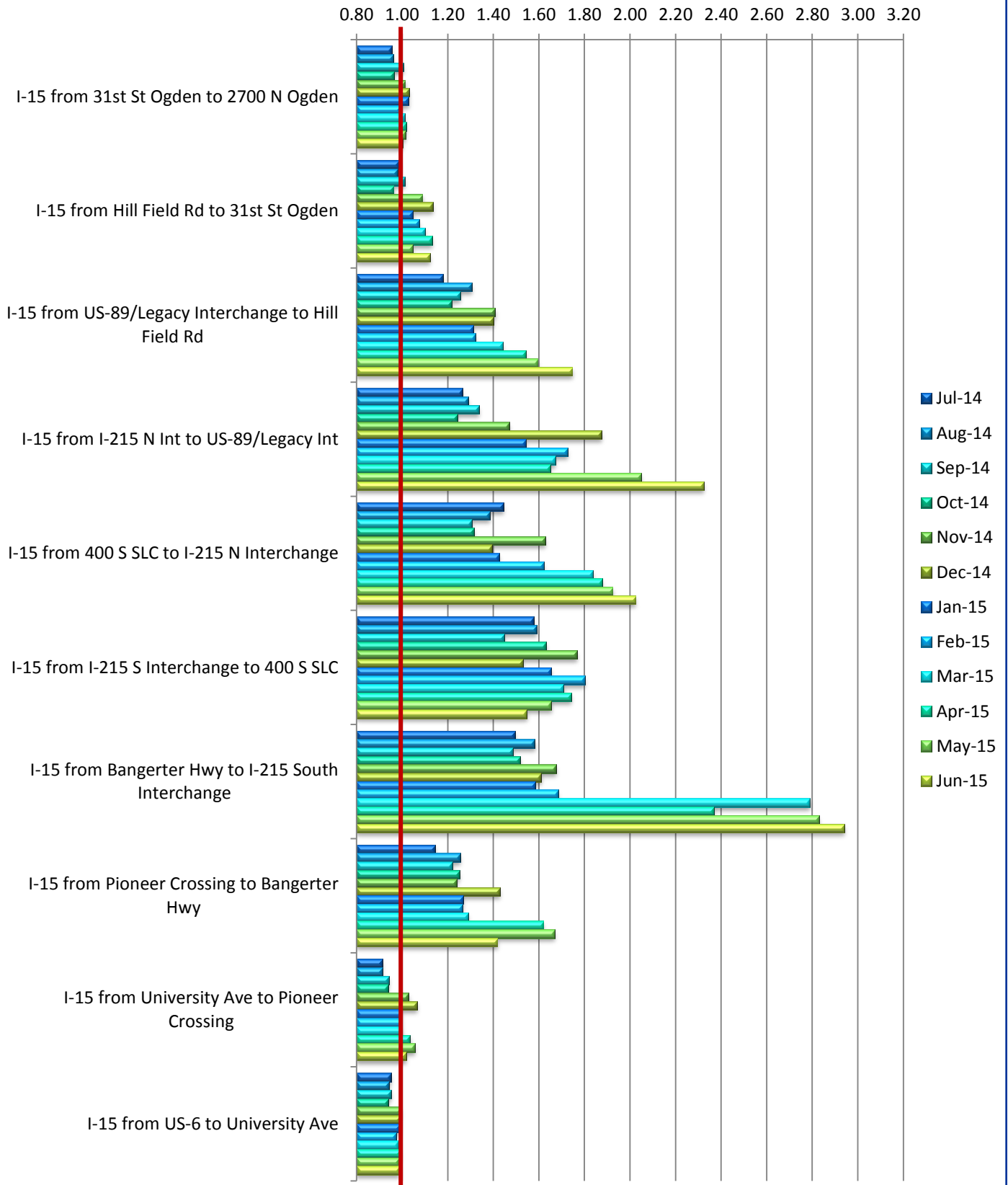
■ PM Peak (17:00-17:59)



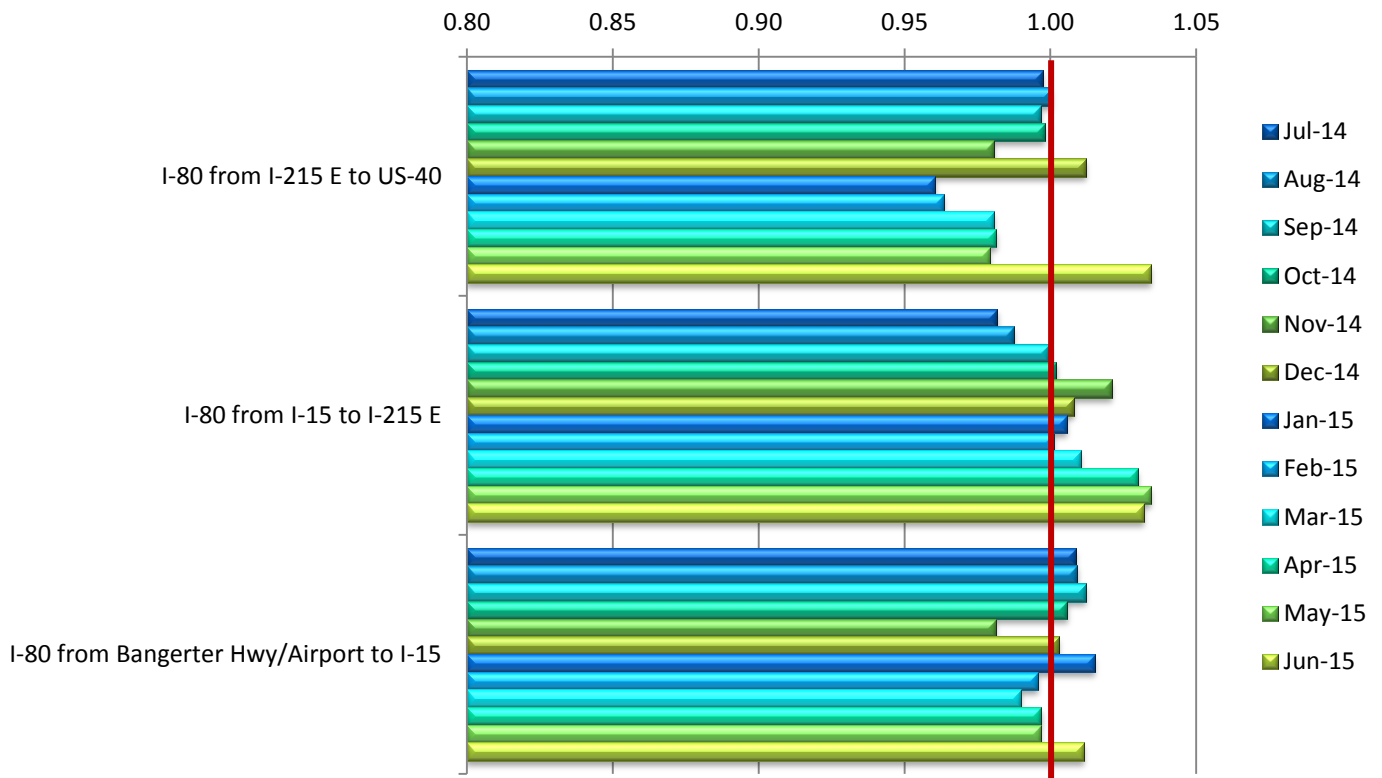
AM Peak Travel Time Index for I-15 FY 15



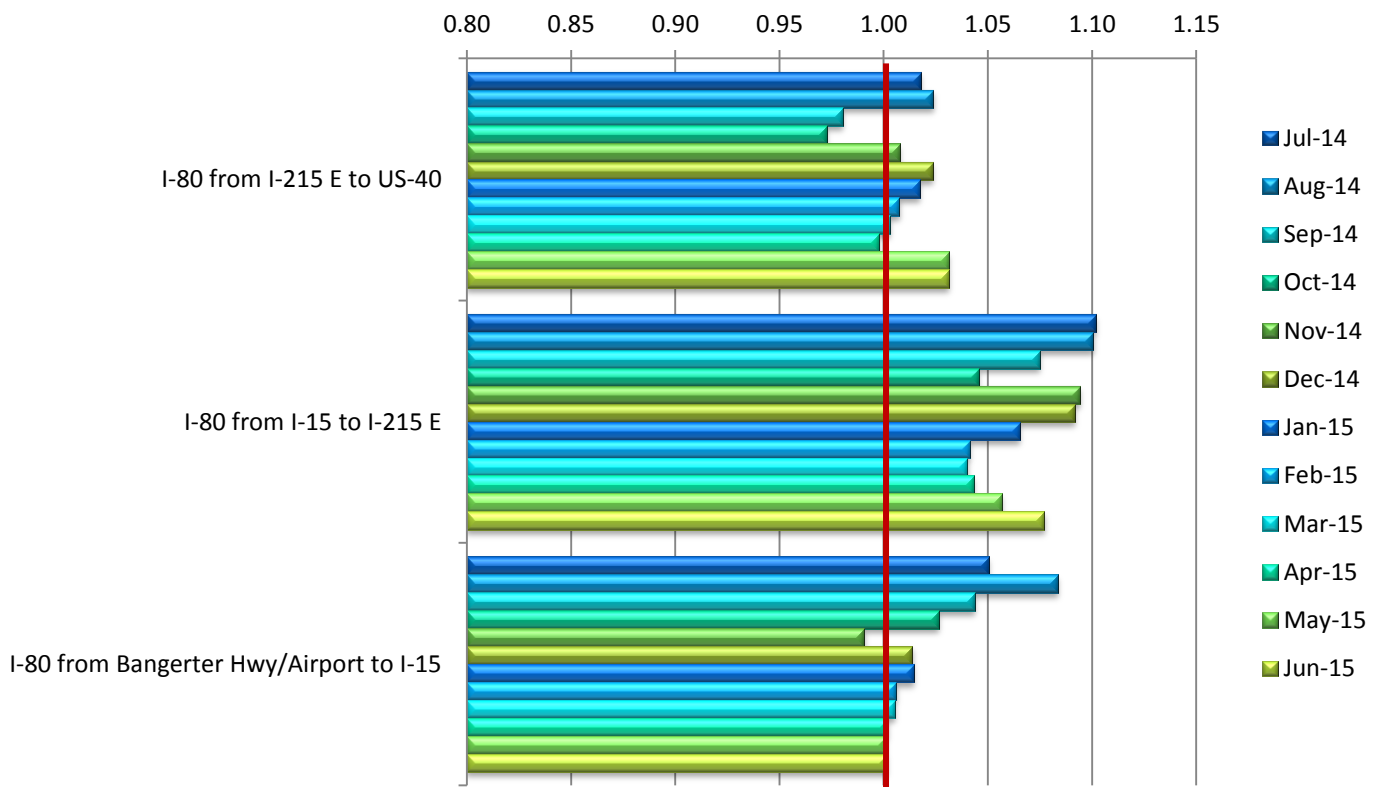
PM Peak Travel Time Index for I-15 FY 15



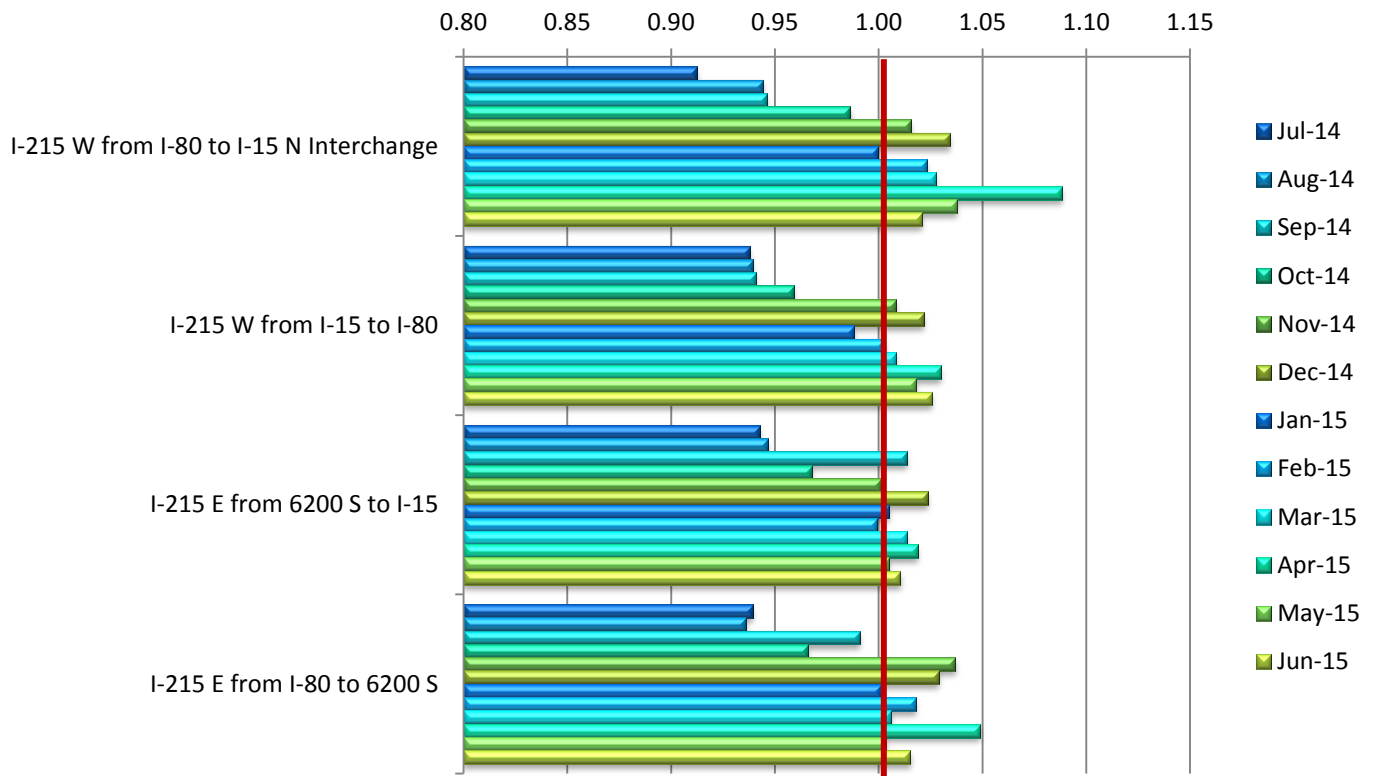
AM Peak Travel Time Index for I-80 FY 15



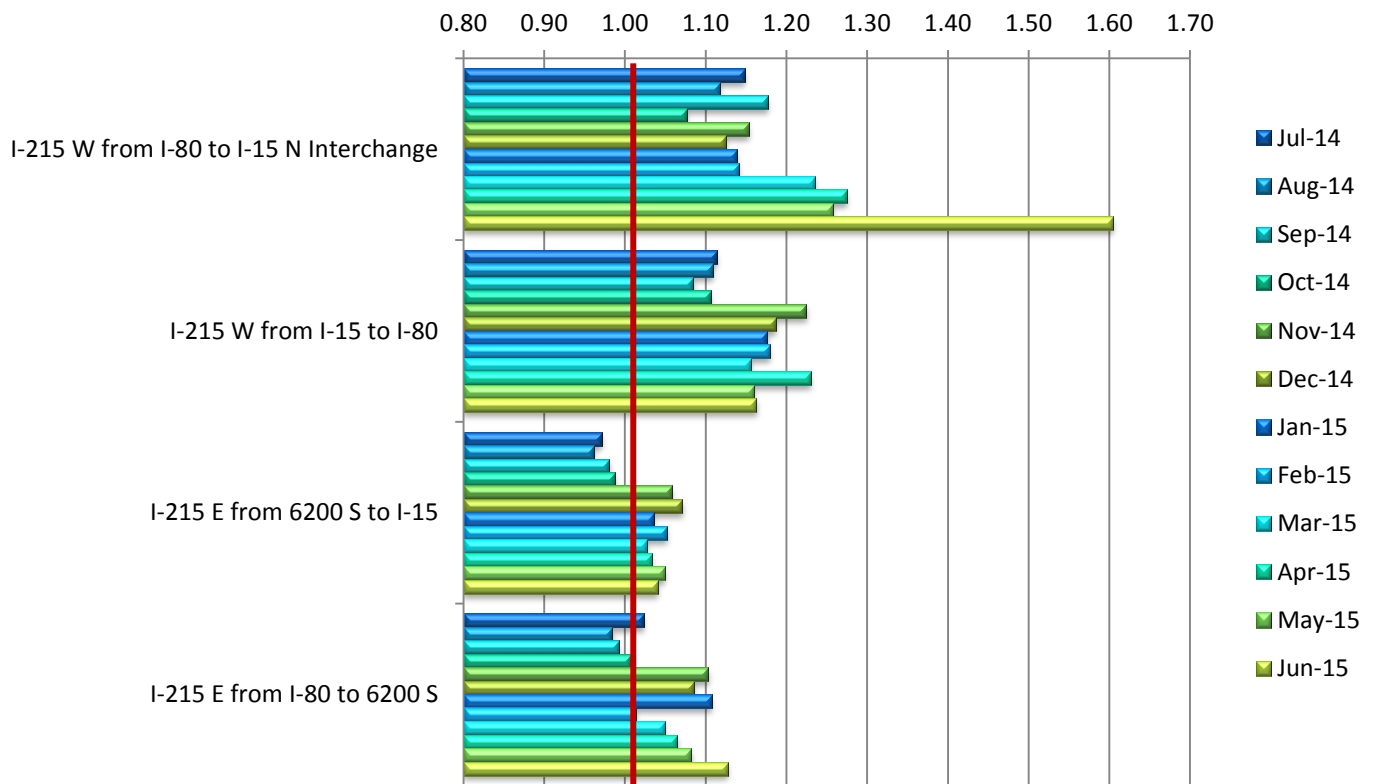
PM Peak Travel Time Index for I-80 FY 15



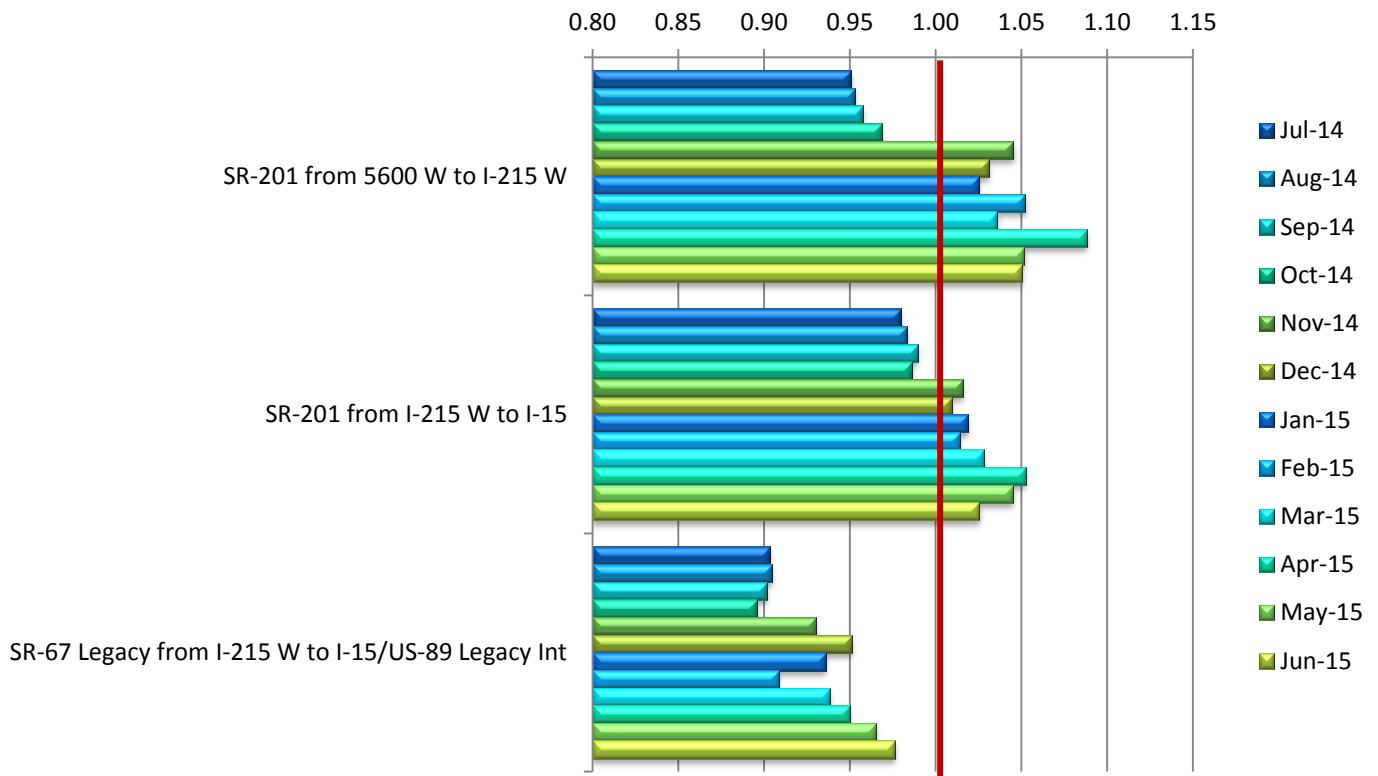
AM Peak Travel Time Index for I-215 FY 15



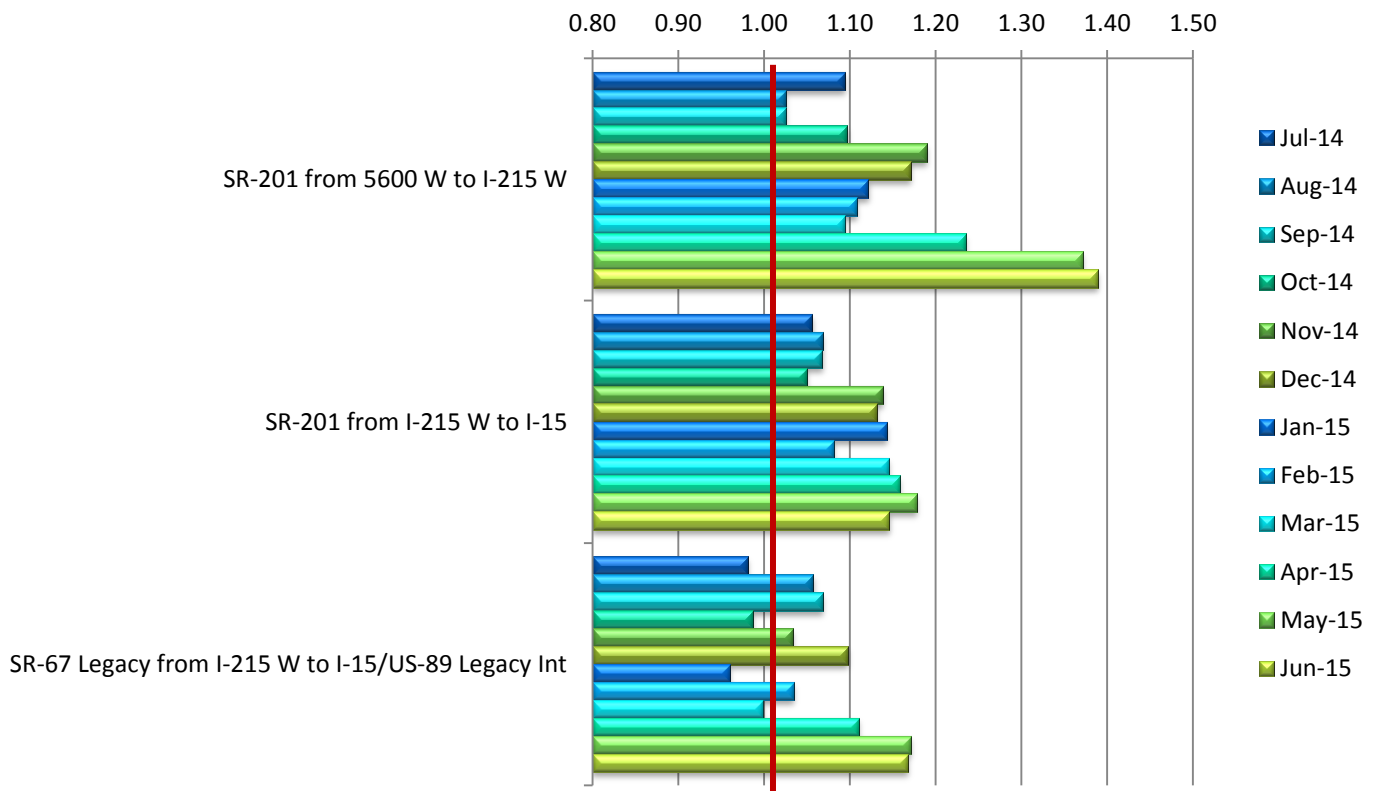
PM Peak Travel Time Index for I-215 FY 15



AM Peak Travel Time Index for SR-201 and SR-67 Legacy Hwy FY 15

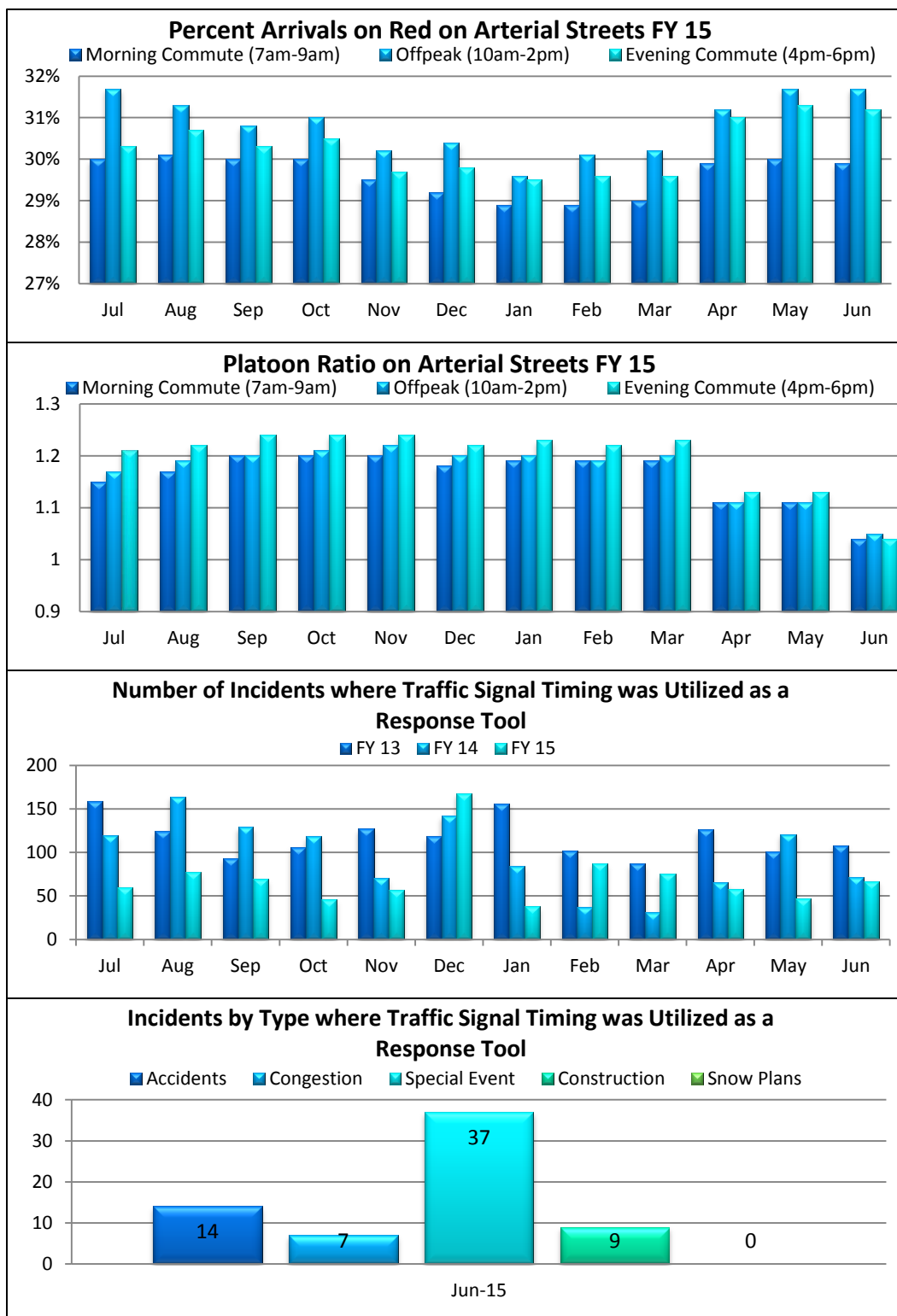


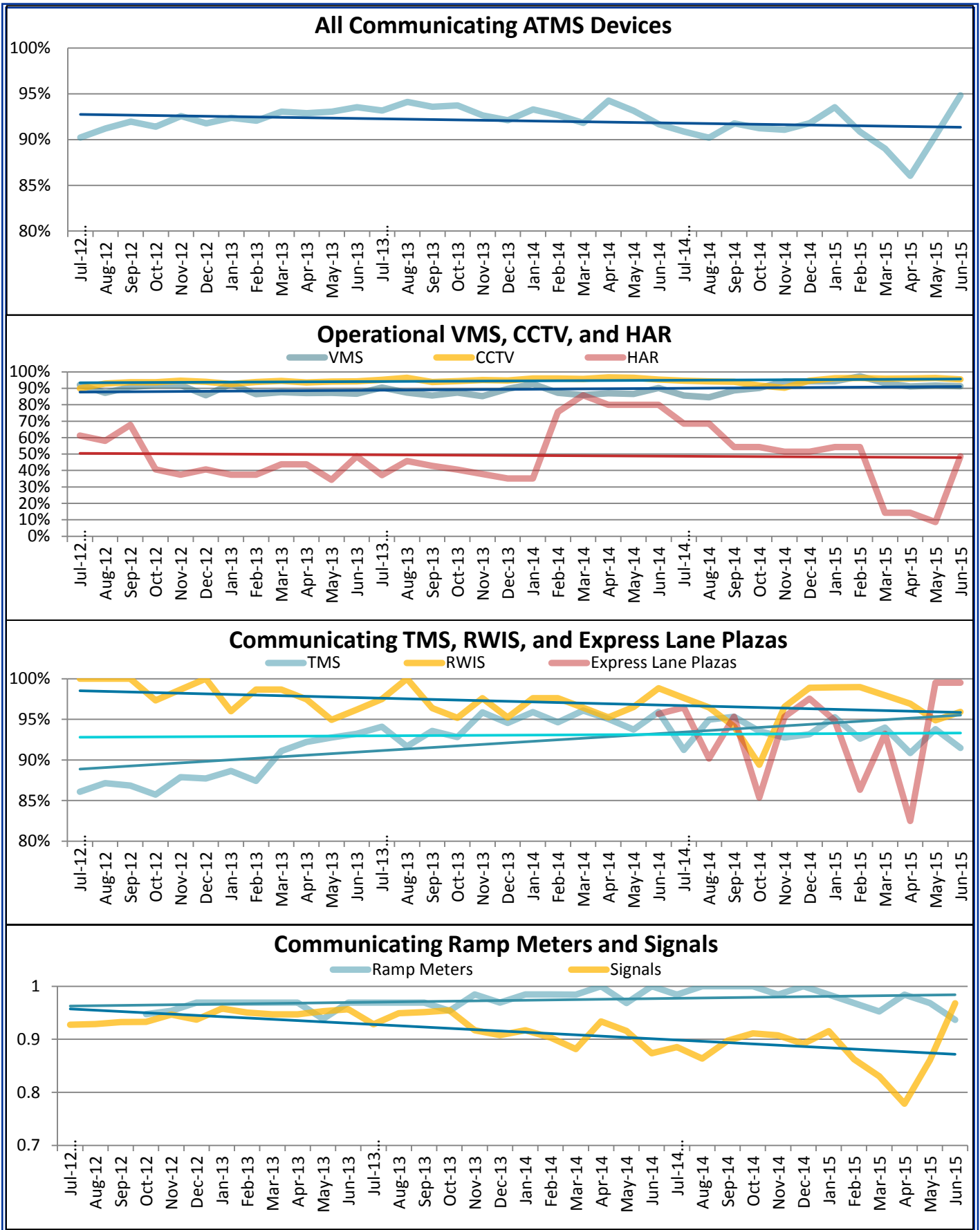
PM Peak Travel Time Index for SR-201 and SR-67 Legacy Hwy FY 15



Arterial Traffic Level of Service

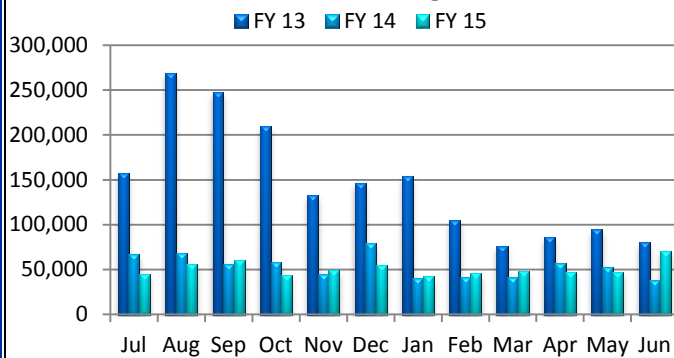
The percent arrival on red along the arterial statistics are generated automatically through the automated traffic signal performance measures, which show real-time and historical functionality at signalized intersections. The system automatically time-stamps when each vehicle arrives at the intersection and then compares the detection time-stamp if the phase was green or red. The percent arrival on red data is averaged over the 24 hours of the day and days in the month. . The lower charts shows the number of incidents where traffic signal timing was modified in order to help traffic flow around closed lanes, or to help relieve excessive congestion.



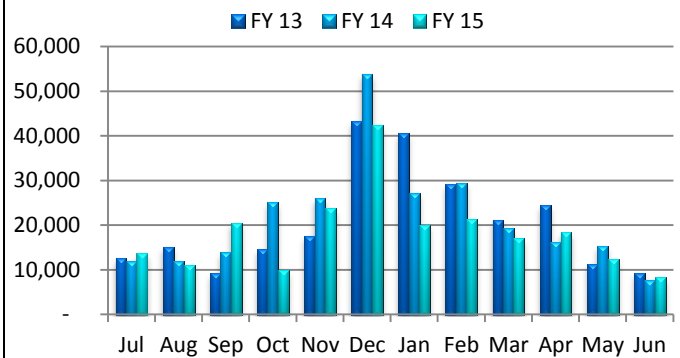


Traveler Information

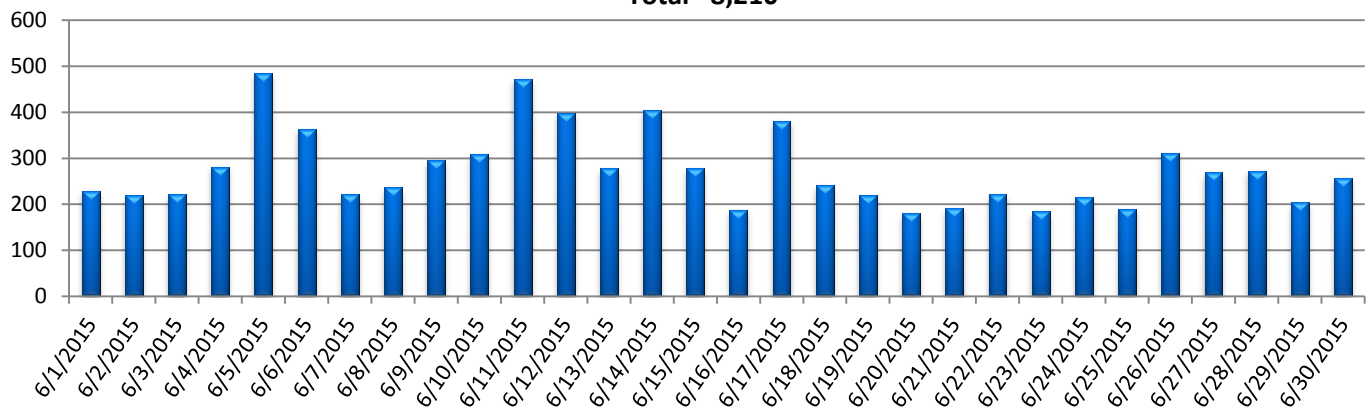
Number of VMS Messages Posted



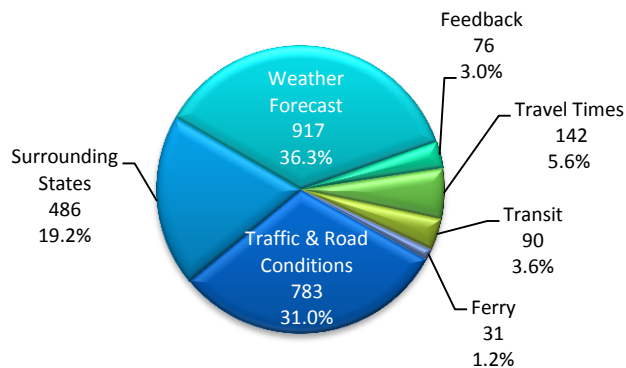
Total Number of 511 Calls



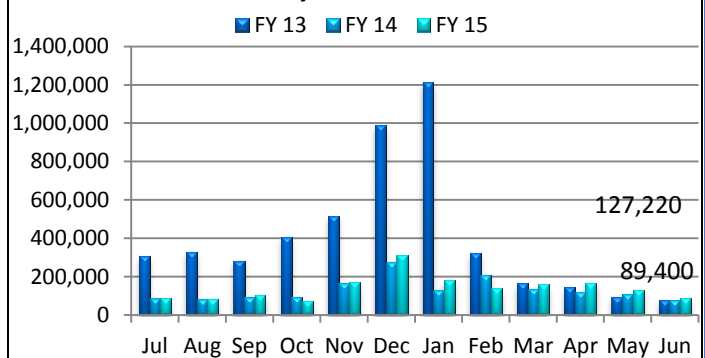
June 2015 Daily 511 Call Volumes
Total = 8,210



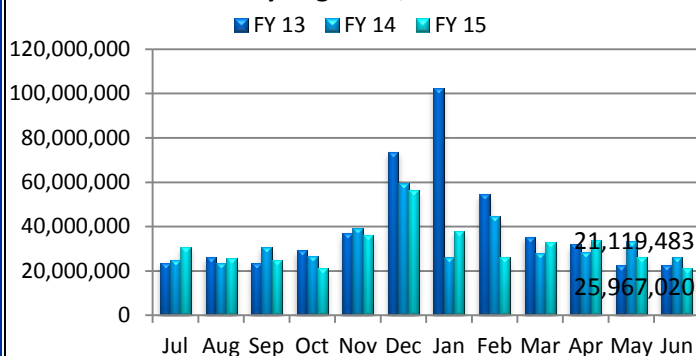
June 2015 Percentage of 511 Options



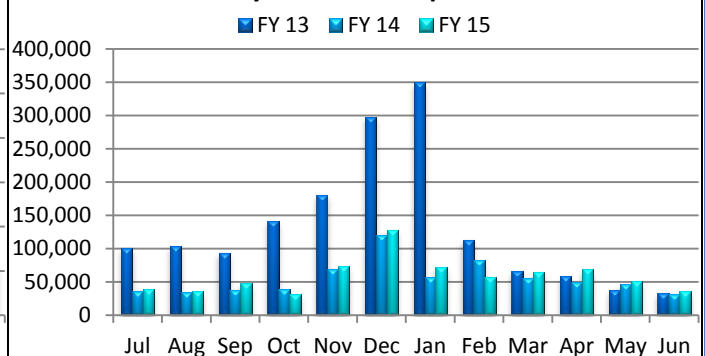
Monthly Websites Visits

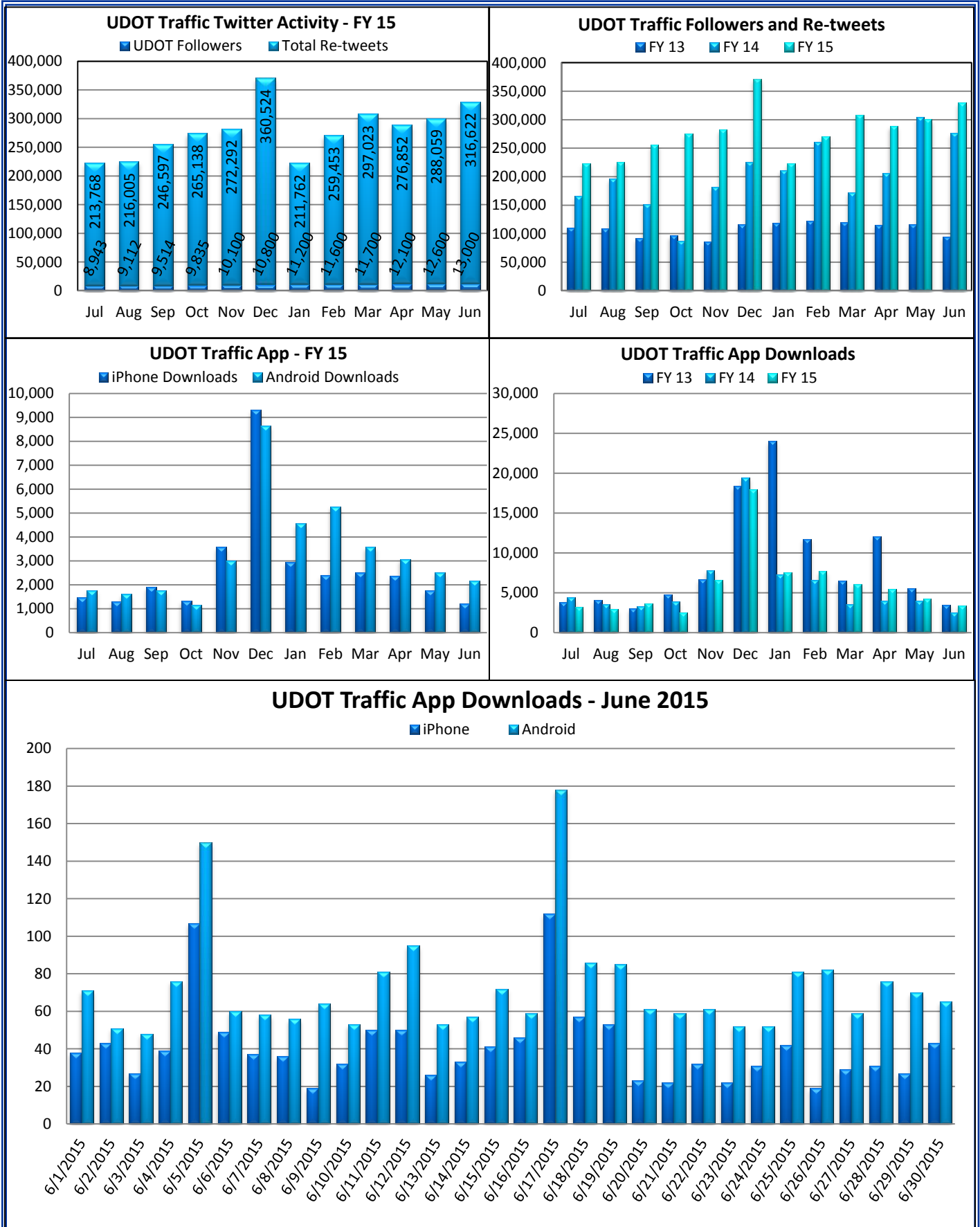


Monthly Page Hits, Entire Site

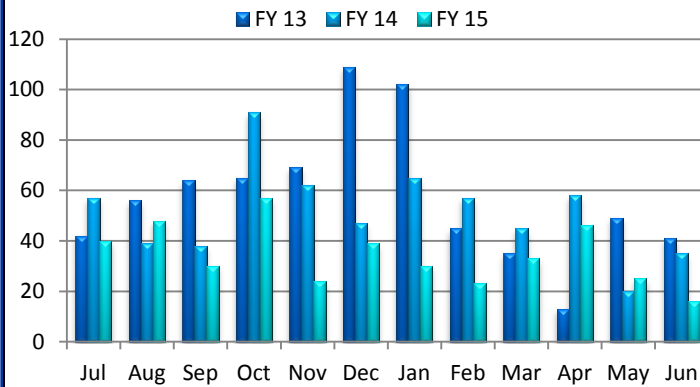


Monthly Website Unique Visitors

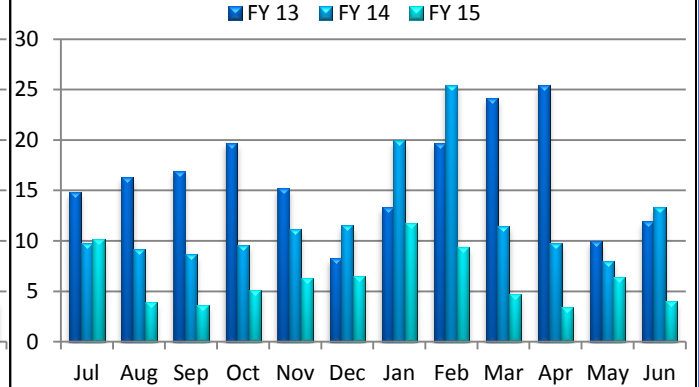




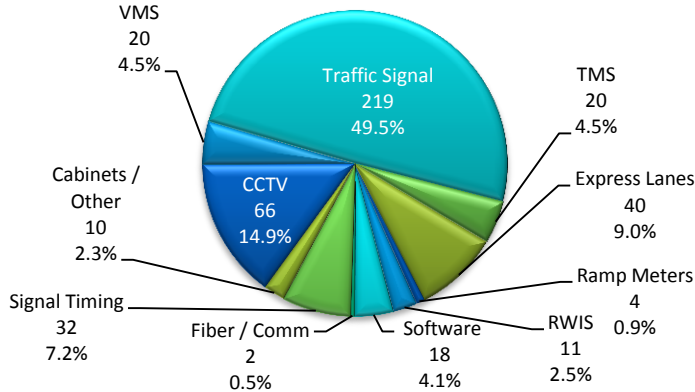
Number of "Ask UDOT Traffic" Questions



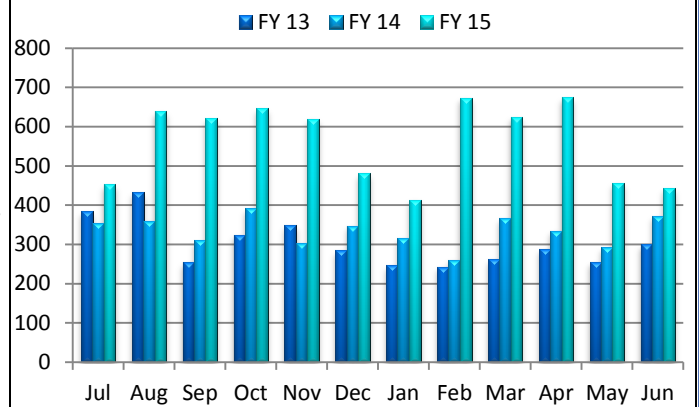
Overall Average Work Order Turnaround Days



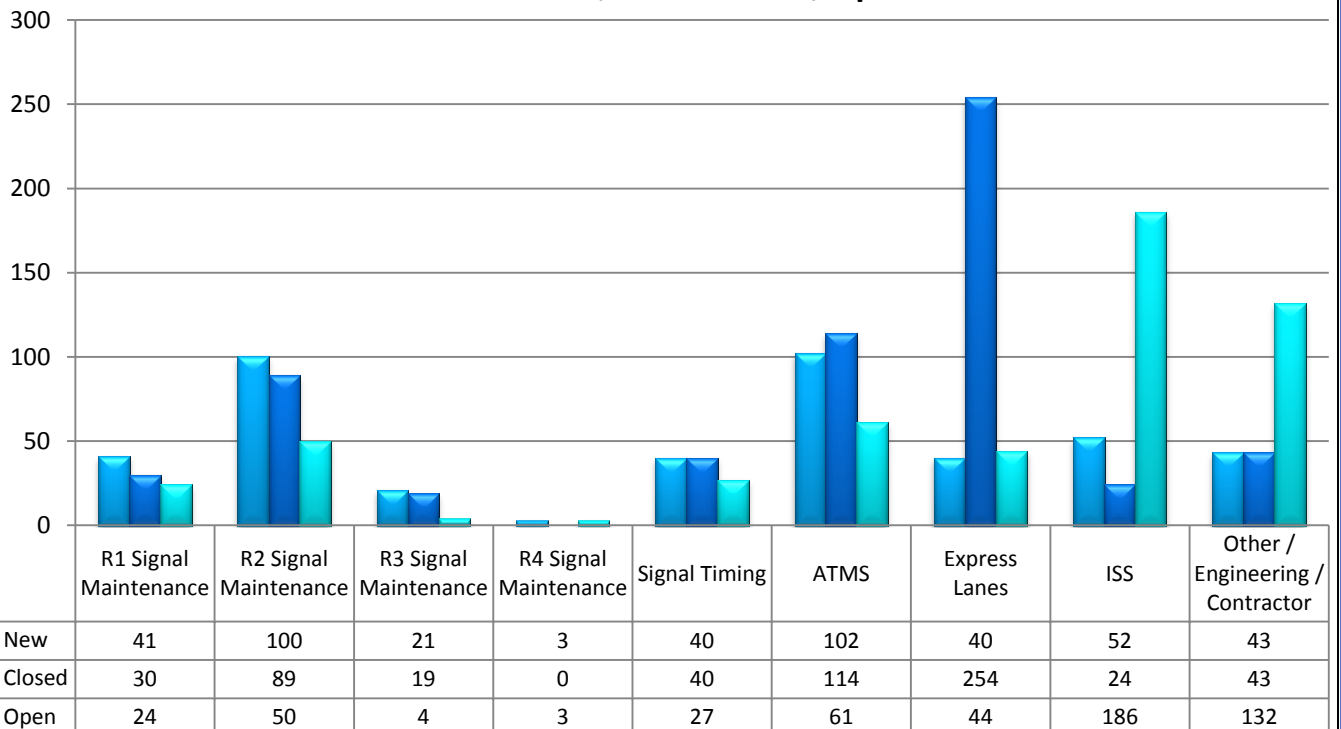
New Work Orders by Device Type June 2015

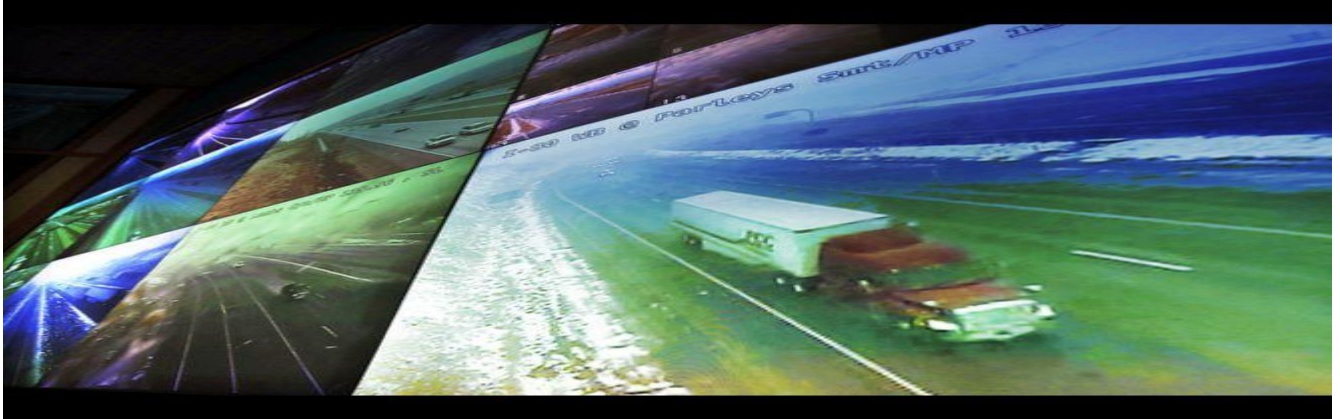


Number of New Work Orders



Work Order Statistics by Group - June 2015 Total New = 442, Closed = 613, Open = 531





CONTROL ROOM

Operators managed 769 incidents and handled 1266 phone calls, posted VMS messages, prepared emergency alerts and 511 messages, monitored events, adjusted signal timing plans and registered work orders for ATMS maintenance.

The Control Room worked with UDOT Traffic and Safety to post “Monday Messages” and “Fatality Friday” VMS messaging during the summer travel period. Air quality messaging was also posted several times throughout the month. The Traffic Operations Center Liaison was activated eight times in the month for pavement buckling caused by the high June temperatures, and several high impact crashes. The I-15 Point, I-15 South Davis and I-80 Wanship projects required control room assistance for lane and road closures as the projects advanced. The control room also posted a 511 message to support a closure for the Arizona DOT I-15 Virgin River Bridge project.

TRAVELER INFORMATION

UDOT’S Lane Closure Initiative was presented at the ITS American annual conference the first part of June. Traveler information led a meeting discussing 511 system updates. VMS messaging was facilitated and tracked for the I-15 Point Project traffic delays. Media interest was encouraged for stories about wire theft and I-15 Point Project travel times.

WEATHER INFORMATION

The Weather Group had 111 overall UDOT weather interactions, 55 outgoing weather alerts, six National Weather Service collaborations, and four Road Weather Alerts.

Climatology

After a wet May statewide, June was one of the hottest on record, with the entire state being above average. Salt Lake had the highest average June temperature, the highest average minimum June temperature, the second highest average maximum June temperature, and had the fourth highest number of days with 100 degrees or greater. The northwest part of the state was much drier than average, with the southeast portion much wetter.

Weather Operations

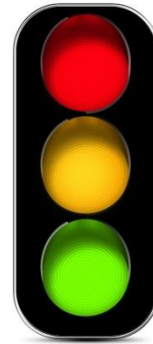
The Weather Group received the award for *Best New Innovative Practice – Sustainability in Transportation* by ITS America for the Winter Road Weather Index. The weather group is making additional advancements and improvements with the Winter Road Weather Index and the newly developed associated performance measure. These advancements were presented at the district engineers' meeting.

Spring RWIS preventative maintenance was completed, and plans for additional RWIS improvements have been finalized.

The group issued a Road Weather Alert for a flooding event by the Patch Springs wildfire scar on the Stansbury Mountains. No flooding occurred at the Seeley burn scar in Huntington Canyon this month. Additionally, there was travel lane ponding during heavy rain at the I-15 Point Project as the storm drainage was only partially working because of the construction. A temporary rain gauge has been installed to monitor rain fall and alert the project of future heavy rainfall.



TRAFFIC SIGNAL OPERATIONS



Region 1

- ❖ Opened the 500 South DDI in Bountiful.
- ❖ Rebuilt the intersections of SR-193/SR-232, Antelope/Robins.

Region 2

- ❖ Optimized the signal timing along Redwood Rd from 7800 South to 13400 South.
- ❖ Installed several peer to peer signal optimization strategies at a few additional locations.

Region 3

- ❖ Opened the 4th leg of intersection and modified signal at 800 North & Geneva in Orem.
- ❖ Updated controller firmware to all that were not communicating with ASC/3 controllers in the Basin.
- ❖ Completed four year re-lamping of all traffic signals in the region (excluding a few on University Parkway in Orem that will be rebuilt with the upcoming BRT project).
- ❖ Installed Matrix radar detection ahead of construction project at 300 South & 200 West in Provo.

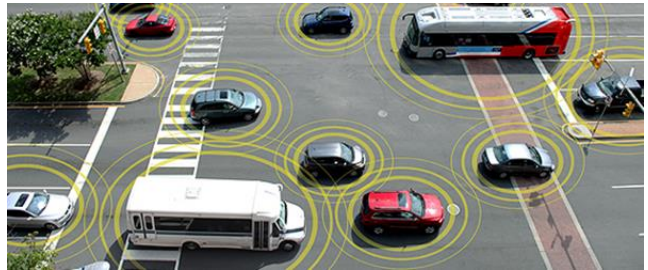
Region 4

- ❖ Turned on the new Washington City intersection at Washington Fields Road & 2000 South.
- ❖ Installed and activated overhead AWS at Bluff Street & Snow Canyon Parkway.
- ❖ Installed and activated bike detection at the Southern Parkway SPUI.
- ❖ Upgraded 32 luminaires to LED fixtures in Monticello and along I-70.
- ❖ Back plate tape was added to five intersections in Monticello, Price, & Cedar City.

TRAFFIC OPERATIONS AND REPORTING

Traffic Operations and Reporting were involved in the following projects:

- ❖ Jeremy Ranch interchange options.
- ❖ I-215 pavement repair project.
- ❖ Congestion reporting.
- ❖ Redwood Road, 2100 South to California Avenue signal timing support.
- ❖ Region 3 and Region 4 coordination.
- ❖ SR-92/North County Blvd intersection improvements.
- ❖ Maintenance of traffic planning for SR-92/I-15 bridge repair and Mountain View Corridor projects.
- ❖ I-80/State St EIS.
- ❖ South Davis County operational improvements.
- ❖ I-215/SR-201 interchange traffic modeling.
- ❖ Moab Main Street signal spacing study.
- ❖ Porter Rockwell road improvements.
- ❖ Provo/Orem bus rapid transit.
- ❖ Road user charge discussion.
- ❖ Managed Motorways study.



ITS ASSET MANAGEMENT

The ATMS device inventory was updated, and the Five Year ATMS Replacement Plan was worked on. Two freeway, three surface street and eight RWIS/LiveView cameras were integrated.

ATMS MAINTENANCE

Field Team

The Field Team performed LFOTs for projects on 1300 South at State Street and at 700 East; assisted the Signal Crew with an emergency traffic signal callout and temporary repair at 1300 South at I-15; worked with Region 2 to repair flashing lights on the railroad crossings on 5600 West at 700 South and 1700 South. The team installed solar power systems for three radio sites. The solar is working but problems were found with defective parts in all three radios, which have been returned to the manufacturer for repair. They also teamed with the Weather Information group to install a solar power system on the Monticello RWIS.

The team, along with Salt Lake County and the ATMS Lab Team, repaired damaged radio hop. Mike Xiras with the ATMS Team was able to repair the damaged radio which was then programmed and reinstalled and is now in full operation. By repairing, rather than replacing the radio, has saved UDOT over \$6,000.

The Field Team closed 84 work orders during the month of June.

ATMS MAINTENANCE

Lab Team

The Lab Team tested or repaired 74 ATMS devices. One traffic signal cabinet was assembled and tested. The Team supported the DPS hosted Safety Fair by deploying two portable variable message signs at the Calvin Rampton Complex. The teams assisted Wavetronix download data and restore earlier firmware software to two traffic monitoring sites and reviewed construction plans for two projects. The Lab Team closed 20 work orders during the month of June

Express Lanes Team

The Express Lane Team closed 45 work orders and replaced one Com VTMS surge protector; One VTMS was configured and a VTMS Network Extender was added. Five clusters were rebooted and four clusters were repaired and configured. Three lasers and three readers were reset and one laser was replaced. A network extender was added for a reader; one UPS power inverter was replaced, reset an AP, and replaced a set of Sensys pucks. The team is also preparing for the I-15 Davis County project's first onsite installation test and will begin programming and inspecting ETC devices.

The team completed 12 cabinet preventative maintenance inspections.



PROJECTS

Region One

- ❖ **Statewide Signal Interconnect:** This has been changed to a larger scope and will be called Statewide Signal Interconnect. PineTop Engineering has been working on the design for this to advertise.
- ❖ **Antelope and US-89:** This project is under construction nearly complete.
- ❖ **200 N. 300 W. Kaysville:** This is under construction.
- ❖ **I-15; SR-30 to the Idaho State line:** This project has been designed by PineTop Engineering and is ready to advertise. This project needs major funding for ATMS. This project may be part of a partnership with a telecom.
- ❖ **Layton Interchange:** This project is in design.
- ❖ **200 N. and Flint St.:** This project is complete.
- ❖ **Logan HUB relocation:** Project is under construction. Nearing completion needs final splicing.
- ❖ **US-89; SR-193 to Cornia Drive:** This project is complete.
- ❖ **US-89; Antelope Drive Extension:** This project is under construction.
- ❖ **Logan CCTV's:** This project is under construction.
- ❖ **SR-126 and 1300 N.:** This project is under construction.



Region Two

- ❖ **Salt Lake Valley Traffic Signal Interconnect:** Our consultant has been working to get wireless connections to the remaining traffic signals not currently online. We are close to connecting all of the UDOT signals to the central signal system. There are also a few other traffic signals that will be brought online with new fiber connections. With our new contracts in place to perform small construction, we will be able to get these signals connected with minimal effort.



PROJECTS

Region Three

- ❖ **SR-92 CCTV/Hybrid VMS (12641):** Met with contractor to review new scope. Established static sign needs for ordering.
- ❖ **SR-145 Pioneer Crossing Extension to SR-73 (11349):** Project complete.
- ❖ **Saratoga Springs; Pony Express; SR-68 to 800 West (8581):** Project ongoing. Anticipate CCTV installation and signal integration in late September.
- ❖ **Region 3 traffic signal connections (12774):** Payson City signals connected in integrated into Utah Traffic Network.
- ❖ **Roosevelt; SR-121 @ State Street Signal (12078):** STRATA signal connection work ongoing in Uintah Basin.
- ❖ **US-40 CCTV/Signal connections (12805):** STRATA signal connection work ongoing in Uintah Basin.
- ❖ **Vernal; US-40 @ 2100 West Signal/CCTV (13018):** On hold due to ROW issues????
- ❖ **Roosevelt; US-40 @ 2000 West Signal/CCTV (12980):** On hold due to ROW issues????
- ❖ **Orem; 800 North Extension (Vineyard) (10810):** Contractor to relocate ATMS junction boxes?????
- ❖ **Provo Canyon RWIS/VMS (11410):** Held PS&E.
- ❖ **US-189; State Park to Rock Cut passing Lanes (11415):** Reviewed ATMS design sheets.
- ❖ **Fiber connection to three Maintenance Sheds (13681):** Established Integrator contract.
- ❖ **SR -92; Utility relocate for BOR easement (13707):** Met in the field to establish NID pole relocate needs.
- ❖ **Spanish Fork; SR-156; 1000 North to I-15 (13687):** Reviewed design plan set.

Region Four

- ❖ **St. George:** This project is under construction and nearly complete.
- ❖ **Pine Creek Truck Climbing Lane:** This project is under construction. Issues with solar sites are being mitigated.
- ❖ **Fiber upgrade for US-6, Helper and Price Signal Integration:** Telecom work has been completed now we will set up another PIN for the remaining work.
- ❖ **Beaver Truck Climbing Lane:** Project is under construction.
- ❖ **I-15; North Beaver to Manderfield:** This project is complete.
- ❖ **Cedar City Fiber:** Project is in design.
- ❖ **Price, Helper fiber and Interconnect:** This project has been completed.
- ❖ **Beaver Shed and Fiber HUB:** This project is in design.



ITS STANDARDS AND SPECIFICATIONS

- ❖ Attended the June 25, 2015 Standards Committee meeting.
- ❖ Work continued on the HNTB standards assignments.
- ❖ Work continued with Narwhal Group working on the NEC and NESC review.
- ❖ Met with the Structures Design Unit to discuss standardizing the gantry structures that hold the Electronic Toll Lane equipment. Structures agreed to take on the project and thought the shop drawings may be available in the fall 2015 due to summer bridge projects having priority.
- ❖ Met with Horrocks to discuss the future addition of Micro-duct conduit products and their integration into the existing fiber optic conduit specifications.

PROCUREMENT

- ❖ Work continued on the IP-CCTV development. The VITEC IP-Decoder did not decode all the required video streams coming into the TOC so, the test was completed. Chuck Felice and John Amidon continued to develop the IP CCTV module in the TranSuite software.
- ❖ Hubbell manufactures Polymer Concrete Junction Boxes, stopped by the TOC for a sales presentation. They have continued to work on anti-wire theft systems.
- ❖ Work began on developing the field ITS Ethernet switch contract. The old RFP specification was sent to DTS staff for checking and revising as needed.

SPECIAL PROJECTS

- ❖ Held the kick-off meeting for the new VMS on I-215 Eastbound near 2300 East and VMS on I-15 Northbound, North of Bangerter. Traffic engineers from Region 2 Traffic, Traffic and Safety, and the TOC attended. The meeting objective was to discuss the options for locating the new VMS and listen to recommendations and commentary.
- ❖ A site visit was held the day after the kick-off meeting to familiarize the "Location Team" to the static sign layout and the highway alignments in the proposed sites.

HAPPENINGS



"Yes, I know you found them, but the Highway Department wants their cones back."

Acronyms

CCTV	Closed Circuit Television	DPS	Department of Public Safety
EIS	Emergency Information System	HAR	Highway Advisory Radio
I2TMS	Integrated Interagency Traffic Management System		
ITS	Intelligent Transportation System	LFOT	Local Field Operations Test
MIC	Manager in Charge	MOT	Maintenance of Traffic
RWIS	Road-Weather Information System	TAC	Technical Advisory Committee
TMD	Traffic Management Division	TMS	Traffic Monitoring Station
TOC	Traffic Operations Center	VMS	Variable Message Sign

